

--IN THE CLAIMS--

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of claims

1. (currently amended) A composition comprising complementary fragments of a fluorescent protein, said fragments generating ~~an optically~~ a fluorescent detectable signal when associated.

2. (canceled without prejudice or waiver)

3. (canceled without prejudice or waiver)

4. (canceled without prejudice or waiver)

5. (canceled without prejudice or waiver)

6. (currently amended) The composition of claim 5 1 wherein said fragments are derived from a mutant fluorescent protein.

7. (original) The composition of claim 6 wherein said complementary fragments differ from the corresponding fragments of the wild-type protein by at least one amino acid.

8. (canceled)

9. (canceled)

10. (currently amended) A composition comprising complementary fragments of a mutant fluorescent protein, said fragments generating ~~an optically~~ a fluorescent detectable signal when associated, wherein each fragment is fused to a separate molecule.

11. (canceled without prejudice or waiver)

12. (original) The composition of claim 10 wherein said complementary fragments differ from the corresponding fragments of the wild-type protein by at least one amino acid.

13. (currently amended) Protein fragment complementation assays for the detection of molecular interactions comprising a reassembly of separate fragments from ~~an optically~~ a fluorescing detectable protein wherein reassembly of the fragments is operated by the interaction of molecular domains fused to each fragment, wherein reassembly of the fragments is independent of other molecular processes and wherein said reassembly is detected by means of reconstitution of activity of said ~~optically~~ fluorescent detectable protein.

14. (canceled without prejudice or waiver)

15. (original) The assays of claim 13 wherein said fragments are derived from a mutant fluorescent protein.

16. (currently amended) A method for detecting biomolecular interactions said method comprising:

- (a) selecting an appropriate ~~optically~~ fluorescent detectable protein;
- (b) effecting fragmentation of said ~~optically~~ fluorescent detectable protein such that said fragmentation results in reversible loss of protein function;
- (c) fusing or attaching fragments of said ~~optically~~ fluorescent detectable protein separately to other molecules;
- (d) reassociating said protein fragments through interactions of the molecules that are fused or attached to said fragments; and
- (e) detecting the resulting ~~optical~~ fluorescence signal.

17. (currently amended) The method of claim 16 wherein said ~~optically~~ detectable reporter protein is a mutant fluorescent protein.

18. (New) A composition comprising complementary fragments derived from a mutant fluorescent protein, wherein said complementary fragments differ from the corresponding fragments of the wild-type protein by at least one amino acid, wherein said fragments generate a

fluorescent detectable signal when associated and wherein said fragments are selected from the group consisting of: Seq. ID No: 20 to Seq. ID No: 1067.

19. (New) The composition of claim 1 wherein said fragments are further fused to a separate molecule